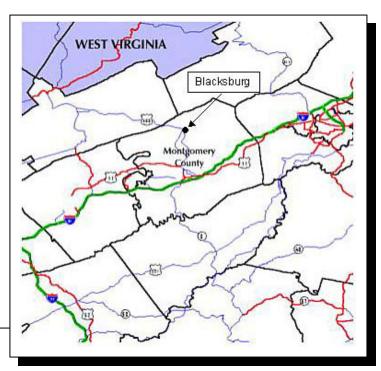
3 DEMOGRAPHIC AND ECONOMIC TRENDS

A. INTRODUCTION

Chapter 3 examines recent demographic and economic trends, including population growth, household formations and employment and establishment trends, for the Town of Blacksburg and Montgomery County. In addition, the chapter presents demographic and economic projections over the next twenty years as a basis for anticipating future growth patterns.

RKG Associates has relied on two demographic and economic data sources, Woods & Poole, Inc. for county-level demographic and economic data and Claritas Corporation Town-level employment data. Both of these firms are of proprietors customized and economic demographic data. including long - range projections. RKG also relied on public data sources from the University of Virginia's Weldon Cooper Center for **Public**

Map 3-1
Montgomery County and Vicinity



RKG Associates, Inc.

Service, the US Department of Commerce and in-house population estimates prepared by the Town of Blacksburg. It is important to note that the data presented in this section for Montgomery County also include City of Radford totals. Some of the data files used did not offer Montgomery County data individually. Therefore, all of the analysis was calculated based on the combined totals of the two jurisdictions to maintain consistency throughout the Chapter.

B. GEOGRAPHIC LOCATION

Montgomery County, Virginia is the geographic region and market that is most influential on Blacksburg's economy and its development patterns. Throughout this analysis, the county is compared to the Town in terms of its demographic, economic, and real estate market characteristics and is generally considered Blacksburg's primary competitive market. Roanoke, which is the largest population center in Southwest Virginia, is located approximately 40 minutes east of Blacksburg, but is not thought to have a great influence on Blacksburg's economy or its growth patterns.

Montgomery County is bisected by Interstate 81, which runs northeast-southwest, parallel to the Virginia and West Virginia Border. Secondary north-south routes include US Route 11, which runs parallel to Interstate 81 through the County intersecting once in Christiansburg, and State Highway 8, which starts at the junction of Route 11 and Interstate 81 and runs south down to the North Carolina border. The primary east-west route is US Route 460, which cuts through Blacksburg and intersects with US Route 11 in Christiansburg before continuing east towards Petersburg, VA (see Map 3-1).

As will be discussed throughout this report, the Blacksburg economy is heavily influenced by the presence of the Virginia Polytechnic Institute and State University, more commonly known as Virginia Tech. The school is the county and town's major employment center with over 5,500 jobs, and a student body in excess of 26,500 students.

C. POPULATION TRENDS

This portion of the chapter will discuss the current and projected trends relative to population. This analysis will establish a basis for projecting the future demand for local housing, as well as demand for

Montgomery County Figure 3-1 Population & HH Size Trends (1980-2000) 95,000 2.65 90,000 2.6 Population Cour 85,000 2.55 is 王 2.5 80.000 75,000 70,000 2.4 65.000 2.35 60 000 2.3 1980 1990 1995 2000 Population —— HH Size

RKG Associates, Inc.

local non-residential building space and land.

1. Montgomery County

a.) Population Projections

According to Woods & Poole, Inc., Montgomery County¹ has an estimated population of 93,133 residents in 2000. This total reflects a 3.4% increase over 1990 population levels. It should be noted, however, that these figures do not reflect the 2000 U.S. Census figures, which are not due for release until 2001. As shown in Figure 3-1, the County is projected to continue to grow by another 16.1% over the next 20 years. Woods & Poole, Inc. project that the County will

increase to over 100,000 residents by the year 2010 and 108,147 by 2020. This population growth will be driven, in large part, by residential growth in the county, however, Blacksburg is expected to experience some growth as well.

b.) Household Size

Despite this growth trend, the average household size in Montgomery County is projected to decline over the next 15 years. In 1990, the average household size was estimated at 2.63 people per household. Over the past 10 years this average has declined to 2.41, and is projected to decline to 2.33 persons per household by the Year 2015, at which time the household size is projected to level off. This finding is consistent with state and national

trends. With high divorce rates and declining birth rates, smaller single-parent homes and "empty-nest" households are becoming more common.

c.) Projected Household Formations

Overall, Montgomery County is projected to grow by approximately 15,000 people over the next 20 years, which converts to an average of 750 new residents per year. Based on the average household size of 2.35 persons, this

POPULATION ALERT!

It is important to note that Woods & Poole's population projections do not reflect or anticipate any institutional changes in the student enrollment at Virginia Tech. Future increases in university enrollment have the potential to boost the Town and county population above the projected levels presented in this section in addition to increasing the average

¹ Montgomery County includes the City of Radford, VA

translates into a demand of 320 new housing units each year for the next 20 years or almost 6,400 new units by 2020. This would be an approximate increase of 25% in total housing units based on the current residential housing stock. It is important to note that these forecasts are based on the assumption that the local economic market remains constant. Variations in the economic cycle can alter these numbers significantly.

2. Town of Blacksburg

a.) Population Projections

In 2000, Blacksburg has an estimated population of 39,663 residents. This total of 14.7% since 1990. represents increase In comparison, Montgomery/Radford (6.2%) and the New River Valley (5.1%) populations grew at a slower rate. It is important to note that the current Town estimate has been calculated using a formula derived by the Blacksburg Department of Planning and Engineering, while the other data has been calculated from estimates derived by the VEC. Consequently, the local data may be the result of a more aggressive estimate. However, this trend is consistent with the growth patterns between 1980 and 1990, where the Town outperformed the county and region in population growth.

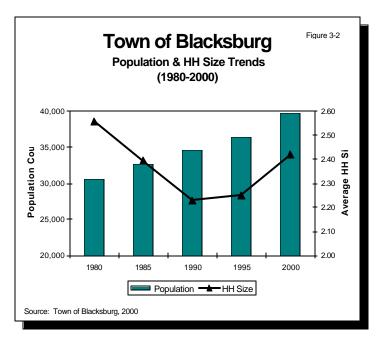
In terms of annual population growth, Blacksburg has averaged nearly 2.0% growth over the past 20 years, compared to 1.2% for Montgomery/Radford and 0.7% for the New River Valley. This growth disparity is due primarily to the influence of Virginia Tech on the Town. Virginia Tech has steadily increased enrollment and employment levels since 1980 despite the fluctuations in the economic cycle. As a result, the employment market in the Town is significantly more stable than the surrounding areas.

The 1996 Blacksburg Comprehensive Plan states,

"the population of the Town, which includes the resident student population, has grown as the university expanded. In 1950 the Town's population stood at 3,358 and more than doubled to 7,070 in 1960, partly because of annexation. On January 1, 1973, following annexation procedures, Blacksburg became Virginia's largest Town, covering 18.7 square miles. The

Town's population then reached 30,638 in 1980. The annexed land included Virginia Tech and its resident student population. Adding to the population count was the change in census counting methodology to include students as residents of the community in which they attend school rather than residents of their "hometown." The population in 1990 reached 34,658, of which it was estimated 49% (17,142) were students living in town and on campus.²

According to the Virginia **Employment** Commission and RKG Associates. population projections indicate that Blacksburg will not grow as fast as the two previous decades, but will continue to grow faster than the county and region. Based on the assumptions made in the Scenario Builder Development Model. population growth in Blacksburg will mirror student enrollment changes



in Virginia Tech (see Chapter 6 for more detail). It is estimated that enrollment at Virginia Tech will increase by 5,000 students over the next decade. As a result, the Town population could potentially increase almost 15% by the year 2010 for a total of approximately 45,800. Although population growth will slow after that due to enrollment stabilization, the Town population is projected to reach 47,700 people by 2020. It is important to note that these estimates are conservative. It would not be unreasonable for the Town population to reach

² This number was determined by using the total number of 18 to 24 year old people reported by the 1990 U.S. Census and subtracting an estimated 1,500 non students in that age category. The non-student figure was determined by comparing age structures of Blacksburg with adjacent jurisdictions. The difference between 17,142 in-town students and 24,926 enrolled students can be accounted for by overlap of student/year-round resident status, commuter students, and loss of student enrollment between the Fall of 1989 and April 1990 when the census was taken.

50,000 over the next 20 years if the enrollment assumption is correct and economic growth attracts new residents that are not associated with the school.

b.) Household Size

The Town currently has an average household size of 2.42 persons. This figure was derived from a composite population estimate based on dwelling unit counts for all housing types obtained from property assessment records, building permit data, and a survey of major apartment complexes. The current average household size represents a 7.6% increase over 1990 levels.3 Although the current average household size is similar for Blacksburg and the County, the Town's growth trend sharply contrasts with the County's growth trend. This difference is primarily due to the concentration of students in Blacksburg. Student residents typically demand high-density housing, including units with two or more bedrooms. Since 1990, the Town has experienced more significant growth in large-sized apartment units. This growth pattern has shifted the average household size. However, under the current zoning ordinance, there is insufficient properly-zoned land available for apartment-styled housing to be constructed. As a result, the Town will likely see the household size remain stable. If land is rezoned to allow high-density housing, the Town could potentially experience a continuation of rising household size.

c.) Household Formations

Under the parameters set in the Scenario Builder Development Model using the "high" growth model, the total number of households could potentially increase by over 2,500 over the next decade and 3,500 new households by 2020. This total represents an approximate increase of 20% in total unit count by 2010. As a result, this could place pressure on the local housing market. Similar to the County projections, these forecasts are based on a set of assumptions about the local and regional economy as well as enrollment changes at Virginia Tech. Variations not anticipated in the model can alter these findings significantly.

d.) Virginia Tech Expansion & Enrollment Growth

According to Virginia Tech's Vice President for Finance and Treasurer, the university is under increased enrollment pressures due to the school's recent

³ The Town of Blacksburg feels there is a discrepancy in the 1990 household data published by the US Census due to a perceived miscalculation in multi-family unit counts.

rise in popularity and increased attention on it academic achievements. With a legislatively imposed enrollment funding cap, the university has limitations on its ability to admit new students to the Blacksburg campus. The University's Enrollment Plan, adopted by the Board of Visitors on August 13, 1993, outlines long-term enrollment objectives for Virginia Tech. The plan indicates a willingness to allow on-campus enrollment to begin a slow, controlled increase to a maximum size of 25,000 students on the Blacksburg campus. However, since 1993 the university has allowed enrollment to creep up to approximately 26,500 students (estimated 2000-2001 enrollment level), roughly 1,500 above the Board of Visitors cap and 3,000 beyond the limit for state education assistance. Consequently, the university has had to fund its own growth in recent years without the benefit of additional state funding.4

Over the next 10 years, it is reasonable to anticipate some growth in Virginia Tech's student enrollment. Although there are several ways that the University could grow without adding students to the Blacksburg campus (i.e., distance learning, growth of Alexandria, VA graduate programs, etc.), it is likely that the majority of new students would be educated at the main campus.

With the installation of Charles Steger as Virginia Tech's 15th President, the University has articulated its vision for the next decade to make Virginia Tech one of the Top 30 research institutions in the country by the Year 2010. If this were to happen, Virginia Tech would have to increase its level of sponsored research from \$175 million to over \$275 million per year. This increased level of research funding would likely result in the hiring of new research professors and graduate students, and would be supported by a massive investment in new research facilities and perhaps academic buildings. The impacts of this type of growth would most certainly push the Town of Blacksburg into a new period of expansion and growth. According to Virginia Tech representatives, it would not be unreasonable, for planning purposes, to assume an enrollment increase of 5,000 new students at the main campus over the next 10 years. While there is no official University plan in place to accommodate this level of enrollment growth, it would be prudent for the Town to begin planning for some University growth in the future. How this increased enrollment will translate into the

⁴ Interview with Dr. Raymond D. Smoot, Jr., Vice President for Finance and Treasurer, May 9, 2000.

demand for new housing, non-residential building space, or municipal services is discussed in Chapter 6 of this report.

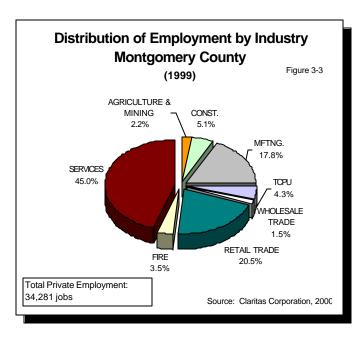
D. LOCAL AND REGIONAL EMPLOYMENT ANALYSIS

This section details recent trends in employment for Montgomery County and the Town of Blacksburg, as well as the projected employment growth for the County. This analysis will provide the basis for projecting demand for employment-generating building space in the future. The County-level and Town-level trend data used for this analysis comes from Claritas Corporation. The projection figures were calculated using 5-year growth rates provided by Woods and Poole, Inc. for the years 2000 to 2025. These growth rates were then applied to the employment totals to get the future year values. For example, the 2000 employment totals presented below were calculated by multiplying the 2000 Claritas figures to the 2000-2005 growth rates from Woods and Poole. The VEC does not report employment data at the Town level.

1. Montgomery County

a.) Employment Trends (1990-1999)

Montgomery County was estimated to have 34,281 private sector jobs in 1999, reflecting an increase of 7.1% from 1990 private employment levels. As depicted in Figure 3-3, the service sector comprised share of total the largest employment in Montgomery County (15,439 jobs or 45.0%), followed by the retail trade (7,027 jobs or 20.5%) and



manufacturing (6,097 jobs or 17.8%) sectors. The other five industry sectors accounted for the remaining 16.7% of County employment in 2000.

The County experienced strong employment growth between 1990 and 1999 despite the economic recession that occurred during the early 1990s. The service sector experienced the most significant employment growth (1,495 new jobs) during this period, followed by the manufacturing (716 jobs) and retail trade (423 jobs) sectors. However, the manufacturing sector experienced the most significant growth in terms of percentage change (13.3%), followed by the services (10.7%) and retail trade (6.4%) sectors. The wholesale trade (16.5% or 100 jobs), FIRE⁵ (7.9% or 104 jobs) and construction (4.7% or 87 jobs) sectors experienced the most significant losses of employment since 1990. It is important to note that the growth in manufacturing industries sharply contrasts the national trends of declining manufacturing employment levels. This difference is primarily due to the continuing migration of manufacturing firms from the northern and mid-western portions of the country into the southern part of the country.

⁵ FIRE is the acronym for the Finance, Insurance and Real Estate industry sector.

b.) Employment Projections and Building Space Needs

Utilizing Woods & Poole employment growth rate projections to the year 2020, Montgomery County is expected to add approximately 11,842 new private sector jobs, or a 34.0% increase over current levels. On an annual basis this equates to an average of 592 new jobs, or a 1.7% increase, per year. The data indicate that the service (9,678 new jobs) and retail trade (2,248 new jobs) sectors will experience the most significant employment growth, while manufacturing is projected to experience a net loss in employment, declining by 1,003 jobs. The remaining sectors are projected to gain a combined 918 jobs by the year 2020. In terms of percentage gains, the service sector (3.0%) has the highest projected annual growth rate in the County, followed by the wholesale trade sector (1.9%).

Despite Woods & Poole's negative projections for manufacturing, there are a number of reasons to believe that that both the County and the Town may experience a net gain in manufacturing jobs over the next 20 years. The construction of the "Smart Highway" between Blacksburg and Roanoke will likely result in increased transportation research at Virginia Tech. The redesign of the Route 460 interchange at the Blacksburg-Christiansburg town-line will result in the creation of approximately 90 acres of new industrially-zoned land near the highway. In addition, the University's goal

to become a Top 30 research university over the next decade will likely spin-off many new jobs in high-tech manufacturing and R&D industries. According to Virginia Tech officials, many of these new jobs will be created at Virginia Tech's Corporate Research Center in Blacksburg. Conversely, it is likely that there will be continued job losses throughout the region in such traditional manufacturing industries as textiles and apparel. As an adjustment to Woods & Poole's projections, RKG Associates has assumed a modest 5% net growth rate for manufacturing over the next 20 years, resulting in a gain of 301 new jobs by 2020.

Table 3-1

Demand-side Projection

Employment Generating Building Space (2000-2020)

Montgomery County	M	onta	omerv	County
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			Demand	Net New	
	Projected	Estim ated	Absorbed by	Building SF	
	Job Growth	No. of Jobs	Existing SF	Needed	Total Building
Industry	2000-2020	per 1,000 SF	(15%)		Space Demand
MANUFACTURING [1]	301	1.83	24,672	139,809	164,481
TCPU	102	3.17	4,826	27,350	32,177
CONSTRUCTION	96	1.83	7,869	44,590	52,459
AGRI, MINING & NC	211	1.83	17,295	98,005	115,301
WHOLESALE TRADE	200	2.15	13,953	79,070	93,023
FIRE	309	3.17	14,621	82,855	97,476
RETAIL TRADE	2,248	2.15	156,837	888,744	1,045,581
SERVICES	9,678	3.17	457,950	2,595,047	3,052,997
TOTAL	13,145	2.82	698,024	3,955,471	4,653,495

Source: RKG Associates, Inc., 2000 and ULI Industrial Development Handbook and other sources

The level of employment growth projected by Woods & Poole and RKG Associates will have a significant impact on the demand for new building space in the future. Future building space demand was calculated using national averages for the number of employees per 1,000 SF of different types of building space.6 Based on these estimates, the projected growth of 13,145 new jobs in Montgomery County over the next 20 years will produce a net demand for over 4.6 million square feet of building space. Assuming that 15 percent of this future demand could be absorbed by existing building space, the total net demand for new building space would equal approximately 4 million SF. Although it is difficult to project the future demand for new building space, it is likely that some percentage of this demand will be captured in existing buildings that my become vacant over the next 20 years. A good example of this has occurred at the Gables Shopping Center on South Main Street in Blacksburg, which was vacate for many years until Kroger Supermarkets renovated and occupied the main store area and other businesses have since moved into the remaining storefronts. RKG Associates is assuming that as much as 15 percent or nearly 700,000 SF of existing building space will be renovated and re-leased over the 20-year projection period. As shown in Table 3-1, the service (2.5 million SF) and retail trade (888,744 SF) sectors are expected to drive the demand for new building space in the county.

^{[1] –} Manufacturing projections for Montgomery County have been adjusted by RKG Associates from Woods & Poole estimated loss of 1,003 jobs between 2000 and 2020 to an increase of 301 during the same period.

⁶ The average was calculated using several sources, including the ULI Industrial Development Handbook

As a point of reference, during the 1990-1999 study period, it is estimated that Montgomery County added approximately 2.2 million square feet of new commercial and industrial building space to its tax roles. This level of new construction is slightly greater, on an average annual basis, than what is being projected over the next two decades. It is anticipated that future development demand will drop off from the peak levels experienced during the 1990s.

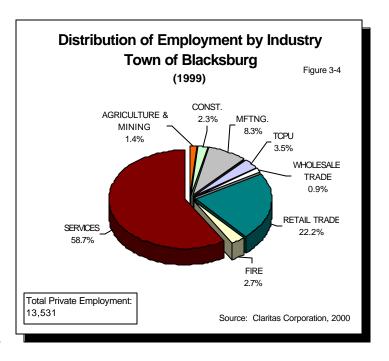
2. Town of Blacksburg

a.) Employment Trends (1990-1999)

In 1999, the Town of Blacksburg had 13,531 private sector jobs, roughly 39.5% of the county total (32,281 jobs). This represents a 1.3% decline in employment between 1990 and 1999, contrasted against the County's 7.1% employment gain during the same period. The service sector (7,948 jobs) accounted for

roughly 59% of the Town's private sector employment, followed by retail trade at 3,008 jobs, or 22.2%.

The proportion of service sector jobs in Blacksburg is perhaps twice what might be expected in most communities. The manufacturing sector accounts for a relatively small portion (8.3%) of the Town's employment base, which contrasts against the high percentage of



manufacturing employment at the county level (23.4%). The remaining industries account for roughly 1,457 jobs, or 10.8% of the Town private sector employment base.

According to Claritas Corporation, the Town's recent employment trends also differ significantly from County trends. The Town's service and retail trade sectors both experienced a 2.4% decline in employment between 1990 and 1999, losing a total of 269 jobs. This is quite uncommon in most communities, as retail and services are two of the fastest growing sectors in the U.S. economy. However, during the 1990s, the region experienced a "sea change" in the location of new retail and service business. Since the late 1980s dozens of new businesses (i.e., small and large retailers, restaurants, banks, professional offices, supermarkets, service businesses, etc.) have located outside of Blacksburg on the Route 460 corridor in Christiansburg.

In contrast, the manufacturing industry experienced a net gain of 143 jobs, or a 14.3% increase during the 1990s. Construction (5.5%) and wholesale trade (0.8%) were the only other industries to experience any employment growth during this period.

Despite this fact, interviews with local developers and realtors indicate that there is sufficient development demand in the Blacksburg market. According to the local professionals, there has been an increase in interest to develop commercial and industrial projects in the Town. This is primarily due to the intangibles associated with having a Blacksburg address. Most notably, there is a proposal to expand the downtown retail district through redevelopment and the addition of new space. The reconfiguration of the highway intersection in the southern part of Town should also expand the opportunity for industrial development. Furthermore, the opportunity to develop and redevelop commercial nodes along North and South Main Street and Prices Fork Road is being discussed and projects are being developed.

b.) Employment Projections and Building Space Need

Because Woods & Poole, Inc. only makes industry employment projections at the county, MSA, and state level, and the VEC does not provide Town-level employment data, there are no readily available employment projections for the Town of Blacksburg. In order to project the local demand for future building space in over the next twenty years, RKG Associates, Inc. extrapolated from County-level employment projections using proportional estimating techniques. In order to arrive at local building space projections for Blacksburg, it was

assumed that the Town would capture its share of regional industry employment in relationship to two factors: (1) the percentage or share of Town employment to County employment by industry, and (2) the local rate of employment growth during the 1990s versus the County rate of growth by industry. The first factor was given a weight of 20 out of 100 percent and the second factor, which reflects the Town's recent ability to capture its share of regional employment growth, was given a weight of 80 out of 100 percent.

During the past decade, it is estimated that the Town captured roughly 34.4% of new employment-generating development in Montgomery County (in terms of building square feet). Depending on the industry, RKG Associates then adjusted future capture rates up or down from this average rate. As an example, RKG Associates has projected that the Town may only capture 25% of future retail employment growth, but as much as 38% of services sector job gains over the next two decades. The resulting employment projections have allowed the consultants to make the following building space demand projections over the next two decades (Table 3-2).

Table 3-2

Demand-Side Projection; Employment Generating Building Space (2000-2020)

Town of Blacksburg

			Demand	Net New	
	Projected Co.	Average No.	Absorbed by	Building SF	
	Job Growth	of Jobs per	Existing SF	Needed	Total Building
Industry	2000-2020	1,000 SF	(15%)		Space Demand
MANUFACTURING [1]	131	1.83	10,774	61,051	71,824
TCPU	35	3.17	1,637	9,276	10,913
CONSTRUCTION	34	1.83	2,795	15,838	18,633
AGRI, MINING & NC	27	1.83	2,210	12,524	14,735
WHOLESALE TRADE	26	2.15	1,785	10,115	11,900
FIRE	104	3.17	4,917	27,866	32,783
RETAIL TRADE	642	2.15	44,795	253,837	298,631
SERVICES	3660	3.17	173,178	981,343	1,154,521
TOTAL	4,658	2.82	242,091	1,371,850	1,613,941

Source: RKG Associates, Inc., 2000 and ULI Industrial Development Handbook and other sources

RKG Associates projects that the Town will capture roughly 34.8% of future building space demand in the County, 71.5% of which will be driven by growth in the service sector. Such industries as health services, business services, hotels/motels, educational, and amusement and recreation are just some of the industries that might generate the demand for this new space. As with the County projections, it is assumed that as much as 15% of this future demand will be absorbed by existing vacant building space. This leaves a net demand of 1.37 million SF of building space over the next two decades, averaging out to approximately 700,000 SF of building space demanded each year. In comparison, the Town experienced faster growth in commercial building space during the 1990s, averaging approximately 750,000 SF each year.

E. CONCLUSIONS

Montgomery County and the Town of Blacksburg have followed different paths over the past 10 years. The County has been experiencing stable, but constant growth in population and employment since 1990. According to Woods & Poole, these growth trends should continue over the next 20 years resulting in demand for new housing development, employment, and commercial/industrial development. In contrast, the Town of Blacksburg has experienced increases in population and

^{[1] –} Manufacturing projections for Montgomery County have been adjusted by RKG Associates from Woods & Poole estimated loss of 1,003 jobs between 2000 and 2020 to an increase of 301 during the same period.

slight declines in employment since 1990. In fact, employment trend data indicate that Blacksburg has been declining in industries such as services and retail, while the county has been experiencing rapid growth. At the same time, the Town has experienced growth in manufacturing employment while the county has not.

Over the next 20 years, it is projected that Blacksburg will continue to capture its fair share of regional employment growth and development demand, perhaps at higher levels than recent years. However, some of the growth trends that were established during the 1990s, particularly the location of retailers, restaurants, professional office, and service businesses to the Route 460 corridor, are expected to continue into the foreseeable future. Blacksburg will likely cater to certain uses that are attracted to the Town's quality of life, higher level of government services, the university, its student population, activities and commercial enterprises, and the Town's more affluent population.